

**Notice of Allowability**

Application No.

10/798,817

Applicant(s)

MIURA, SEIYA

Examiner

Art Unit

Peter B. Kim

2851

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to translation filed on Dec. 22, 2005 and interview on Jan. 19, 2006.
2. ☒ The allowed claim(s) is/are 1 and 4-23.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____.   |

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James Hwa on Jan. 19, 2006.

The application has been amended as follows:

Replace claims 1, 12, 19 and 20 with the following:

Claim 1 (Amended): An exposure apparatus for projecting and exposing a pattern formed on a reticle to an object to be exposed using a projection optical system while relatively scanning the reticle and the object to be exposed, comprising;

detecting means for measuring a position of the object to be exposed at a plurality of first measurement positions that meet a predetermined relative positional relationship in an exposure region of the object to be exposed to which the pattern is exposed and for measuring a position of the object to be exposed at a plurality of second measurement positions that meet the predetermined relative positional relationship in a region outside the exposure region; and

control means for controlling at least one of a position, a height, and a tilt of the object to be exposed based on information on the position of the object to be exposed which is measured by the detecting means,

wherein the plurality of first measurement positions are not arranged in a straight line, and the plurality of first measurement positions include three or more measurement positions.

Claim 12 (Amended): An exposure apparatus for projecting and exposing a pattern formed on a reticle to an object to be exposed using a projection optical system while relatively scanning the reticle and the object to be exposed, comprising;

detecting means for measuring a plurality of measurement positions in a region outside an exposure region of the object to be exposed to which the pattern is exposed and measuring the same positions as the plurality of measurement positions of the exposure region of the object to be exposed to which the pattern is exposed;

and

control means for controlling at least one of a height and a tilt of the object to be exposed to align a position of the object to be exposed with an optimum exposure position of the pattern based on information on the position of the object to be exposed which is measured by the detecting means,

wherein the plurality of measurement positions are not arranged in a straight line, and the plurality of measurement positions include three or more measurement positions.

Claim 19 (Amended): An exposure apparatus for projecting and exposing a pattern formed on a reticle to an object to be exposed using a projection optical system while relatively scanning the reticle and the object to be exposed, comprising:

a focus detection system for, in at least one of a preceding region and a succeeding region of an exposure region of the object to be exposed, substantially simultaneously illuminating a plurality of positions which are arranged in a direction perpendicular to a scanning direction on the object to be exposed with light oblique with respect to the object to be exposed, and detecting

Art Unit: 2851

the light from the object to be exposed with a sensor to determine the plurality of positions of the object to be exposed in an optical axis direction of the projection optical system; and

control means for controlling at least one of a position of the object to be exposed in the optical axis direction and a tilt thereof based on information on the plurality of positions of the object to be exposed in the optical axis direction, which are determined by the focus detection system,

wherein the plurality of positions are arranged to form a plane on the object to be exposed and the plurality of positions of the exposure region match the plurality of positions of at least one of the preceding region and the succeeding region of the exposure region of the object to be exposed.

Claim 20 (Amended): An exposure method of projecting and exposing a pattern formed on a reticle to an object to be exposed using a projection optical system while relatively scanning the reticle and the object to be exposed, comprising the steps of:

measuring a plurality of measurement positions in an exposure region outside a region of the object to be exposed to which the pattern is exposed;

driving the object to be exposed and adjusting at least one of a height and a tilt thereof to align a position of the object to be exposed with an optimum exposure position for the pattern based on information on the plurality of measurement positions obtained in the measuring step;

measuring the same positions as the plurality of positions, in the exposure region of the object to be exposed to which the pattern is exposed and confirming whether or not the object to be exposed is in the optimum exposure position;

Art Unit: 2851

calculating a difference between the optimum exposure position and a position of the object to be exposed in a case where the confirming step reveals that the object to be exposed is not in the optimum exposure position; and

driving the object to be exposed while adding the difference calculated in the calculating step to at least one of the height and the tilt of the object to be exposed in the driving step,

wherein the plurality of measurement positions are not arranged in a straight line. and the plurality of measurement positions include three or more measurement positions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Peter B. Kim  
Primary Examiner  
Art Unit 2851

January 19, 2006